GEOGRAPHIC SCHOOL BULLETINS

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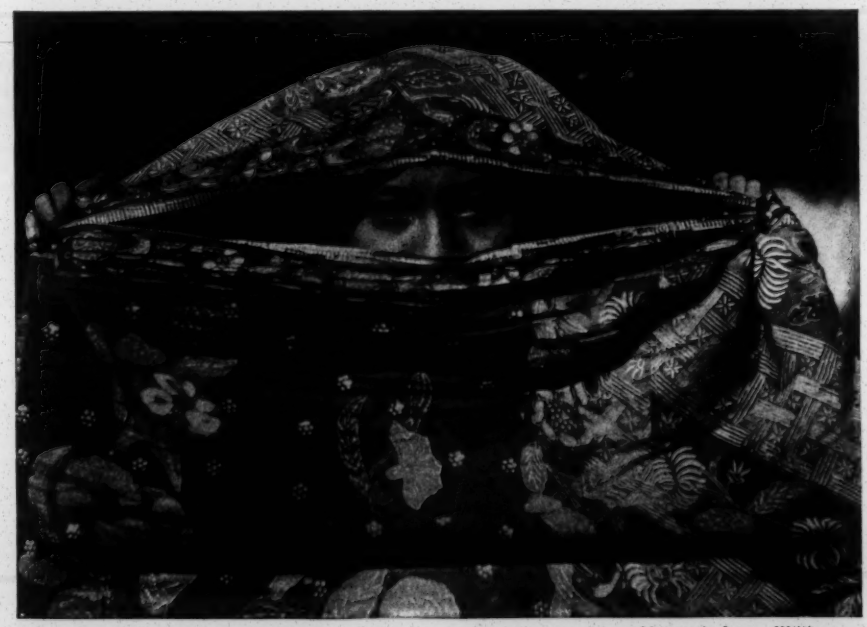
Contents for Week of February 16, 1942. Vol. XX. No. 30.

1. Makassar Strait Becomes Great Naval Battleground of Indies
2. The Amazon, Largest "Father of Waters," Celebrates
3. Geo-Graphic Brevities
4. Subject Index to GEOGRAPHIC SCHOOL BULLETINS, Volume XX

Note: Because schools and libraries preserve the GEOGRAPHIC SCHOOL BULLETINS for reference, an index is supplied annually, listing all subjects, pictures, and maps. The Index to Volume XX covers the 30 issues from February 24, 1941, through the current number.



Maynard Owen Williams

THE STRAIT OF MAKASSAR IS A SHORT CUT THROUGH SARONG LAND

The air and naval battle which broke up a Japanese convoy in the Makassar Strait took place in the heart of the Malay Archipelago, where the uniforms and weapons of war have not yet crowded out the sarong. This versatile garment may be worn as skirt, one-piece wrap-around dress, shawl, hood, or veil. The islanders of the Netherlands Indies, although colonials of the Christian Netherlands, are spiritual followers of Mecca. Moslem modesty prompts this girl of Celebes to envelop herself entirely in her sarong, except for her face; before strangers, she shows only her eyes. At work, she tucks the sarong around her waist (Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Makassar Strait Becomes Great Naval Battleground of Indies

A BOTTLENECK that has proved dangerous to the Japanese is the famous Strait bottleneck between the Celebes Sea and the Java Sea in the Netherlands Indies area—the Strait of Makassar. Joint action by the United States naval and air forces, putting into play a number of redoubtable U. S. Army bombers of the Flying Fortress type, collected a heavy toll from the Japanese for their efforts in January to transport troops through the Strait.

Makassar Strait, some 400 miles long, is one of the broader of many channels which separate the islands of the Netherlands Indies. It is the eastern of two approaches to Java from Japan and Japanese bases in the Pacific.

Situated between Borneo on the west and the smaller island of Celebes on the east, this strait at its widest is about 185 miles across. At its narrowest, at the northern outlet to the Celebes Sea, it extends less than 80 miles—a width some three times that of the Strait of Dover between England and the German-held coast of France.

Easily Patrolled by Planes from Java Base

Makassar (also spelled Macassar) is generally regarded as difficult for navigation because of its many coastal shoals, small islands, and strong currents. It is particularly hazardous during the present season of January and February, when rain, heavy squalls, and rough seas are the rule.

The Strait is among the deeper bodies of water found within the Netherlands archipelago, having a maximum depth of more than 8,000 feet.

Southwest of the Philippines, by way of the Celebes Sea, the Strait of Makassar offers the most direct route from the still embattled United States islands to the chief Netherlands Indies island of Java. It accounts for about a third of the journey from Mindanao, in the Philippines, to the important Netherlands naval base of Soerabaja, Java. The Strait, therefore, can be reached relatively easily by airplane from the base.

Strait Was Oil Outlet

Although less important commercially than the Malacca Strait (to the west, between Netherlands Sumatra and British Malaya), and other traffic routes athwart the Netherlands Indies, the Makassar channel is an outlet for several active ports.

Balikpapan, in the Netherlands portion of Borneo, about halfway along the west coast of the Strait, was a key oil distribution center. According to official reports, it was completely destroyed, along with all its extensive petroleum properties, at the approach of the Japanese.

Southeast across the Strait is the Celebes capital and chief port of Makassar, which gave its name to the busy body of water. Long an important trading center of the East, and now equipped with first-class port facilities, this city normally handles business with Europe, Asia, and the Americas. Its annual shipping amounted in peace time to more than a million tons.

It was from the Makassar district, where it was originally produced, that Macassar oil (an Anglicized spelling) derived its name. This oil, introduced in England more than a century ago and widely used as hair pomade, achieved fame in literature and outstanding nuisance rating among housewives. Lord Byron praised it, and Lewis Carroll mentioned it in Alice's adventures in *Through the*

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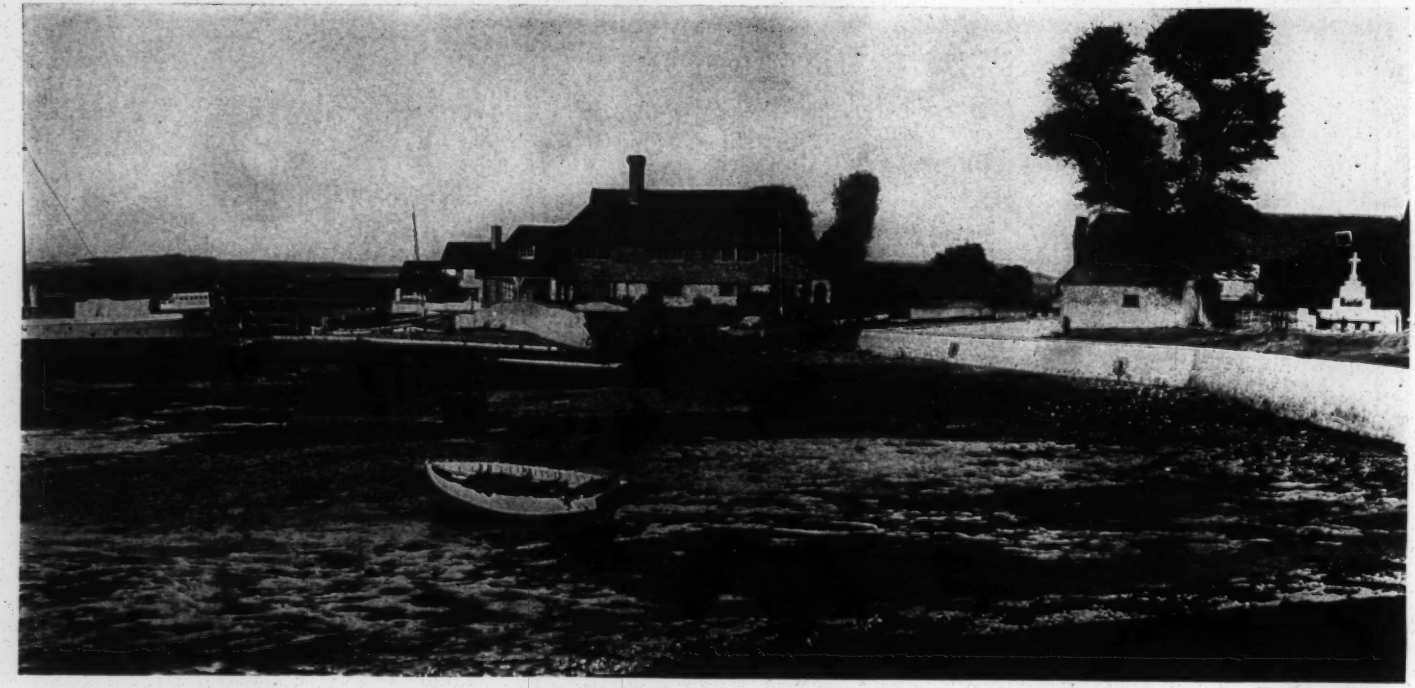

W. Robert Moore

THE QUIET BEACH AT BOSHAM OFFERS BRITISHERS HISTORY WITH THEIR RECREATION

Like Pevensey, the popular resort whose chief distinction is its use as an invasion port nine centuries ago, Bosham has historic attractions to offer visitors. This ancient village of the Downs of Sussex stands at the head of an inlet of the English Channel near Portsmouth, on the Sussex coast which is a week-end playground for Londoners. King Canute came to Bosham for the famous object lesson to flattering courtiers; there he slyly rebuked the waves for failing to obey his commands, although the courtiers pretended to consider him all-powerful. The Roman Emperor Vespasian was the first in history to make Bosham a resort, building an extensive palace there. The Sussex coast is one of the regions to which Londoners at times must forego their visits because of the war (Bulletin No. 3).

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The Amazon, Largest "Father of Waters," Celebrates

THE GREAT river artery of North America, the Mississippi, was discovered in 1541, but its whole length was not confirmed until La Salle sailed southward to its mouth, nearly a century and a half later, in 1682. South America's river titan, the Amazon, on the other hand, was introduced to the European world as a full-grown giant, crossing almost an entire continent and draining an area the size of the United States.

The 400th anniversary of the long voyage that unveiled the Amazon is being observed now, with special celebrations in Brazil and Peru. Francisco Orellana, Spanish soldier of fortune, led the first white men over its jungle-bordered course across South America. Scaling the Andes at Quito, Ecuador, in the wake of that will-o'-the-wisp, El Dorado, he and his party left Pizarro's expedition to search for food on December 26, 1541, and descended the amazing Amazon to its mouth, which they reached on August 26, 1542.

Amazon Is Part "Atlantic Ocean"

The Amazon is more than a river. How much of it is river, how much Atlantic inlet? Its lower reaches have the appearance of a silted-up ocean gulf which once may have extended from the 50-foot cliffs at Obidos (now more than 500 miles inland) to a point 300 miles farther out to sea than the present mouth.

Many of the tributaries are remarkable rivers in their own right—the great Madeira, the tangled Purús, the rushing Marañon, the broad Negro of the north. From Bolivia, Peru, Ecuador, Colombia, Venezuela, and British Guiana, as well as most of Brazil, the Amazon collects its waters (illustration, end of Index).

It is rated as the "biggest" river in the world, though the Mississippi-Missouri system is longest. Its volume exceeds that of the Mississippi, the Nile, and China's Yangtze combined. Its mouth is more than 150 miles wide, and 2,000 miles inland this great water highway is still more than a mile across. In its lower reaches the river's depth exceeds 200 feet, with an average of 100 feet and over for several hundred miles inland, in spite of centuries of heavy silting.

Where Tides Roar

Ocean-going vessels of 24-foot draft can ascend 900 miles to Manaos, Brazil. Ships drawing but ten feet continue another thousand miles to Iquitos, Peru, and are still over 1,500 miles from the Amazon's source, 112 miles from Lima.

Tides in the Amazon have been felt as far as Parintins, 600 miles from the sea. There is thus a succession of tides in the river at all times. The bore or tidal flood raises its abrupt front 8 feet and over, rushing upstream at 9 to 12 miles an hour, with a roar that can be heard from 3 to 6 miles. Fear of this bore prevented Pinzón from exploring the river, in 1500.

At flood the water rises from 30 to 50 feet. So great is the river that melting Andean snow in August and September does not raise the surface until November. Inundations occur in the lower reaches from January to May. The flood is six months in reaching its greatest height, six months in subsiding.

Quite properly, the Amazon is the home of the largest of freshwater fishes, the man-size pirarucú (illustration, next page), which sometimes attains a weight of 400 pounds. Here, too, is the great water mammal, the manatee, with its pork-like flesh, and its mermaid fables. Swarms of alligators persist, and big turtles.

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Looking Glass. The housewives—seeking to protect their upholstered furniture from spots made by resting Macassar-oiled heads—devised the crocheted or embroidered chair tidies of that period. These came to be called "anti-Macassars," then antimacassars. Today Macassar oil forms a base for certain cosmetics. It is derived from the fruit of the kusum tree. Natives had long used it for medicine and for cooking.

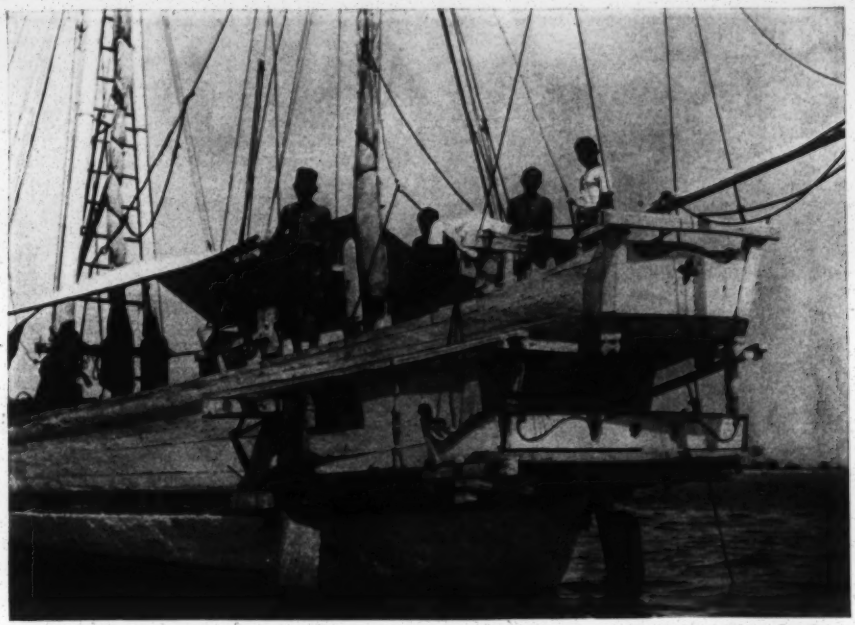
Europeans first learned of the rich East Indies commerce carried on through the Makassar Strait by long-established native traffic when Magellan toured the waters around the spicy islands. The Portuguese for a time had fortifications on the Strait, but Dutch enterprisers took their stand there, on the island of Celebes, in 1607, just as the English were venturing to found a New World colony at Jamestown. The port of Makassar today stands near the site of the 1607 Fort Rotterdam.

Note: For further information about the islands bordering Makassar Strait, see the following articles in the *National Geographic Magazine*: "Java Assignment," January, 1942; "The Celebes: New Man's Land of the Indies," July, 1940; and "Around the World for Animals," June, 1938.

See also these GEOGRAPHIC SCHOOL BULLETINS: "A.B.C.D. Countries: Powers of the Pacific," January 5, 1942; and "Netherlands Indies Question Haunts Homeland and Japan," April 1, 1940.

Makassar Strait may be found on the Map of the Indian Ocean, published as a supplement to the *Magazine*, March, 1941. Price list of maps may be obtained from the Society's headquarters in Washington, D. C.

Bulletin No. 1, February 16, 1942.



Publishers' Photo Service

LIVELY ANTIQUES SAIL THE STRAIT OF MAKASSAR ON WORKADAY ERRANDS

Native navigators of the Makassar Strait for centuries sailed their slim, swift, outrigger Malay praus, canoe-shaped craft with double-length sails. Arrival of the Portuguese and Dutch introduced the clumsy seagoing galleons that were Europe's shipbuilding triumphs three centuries ago. So enthusiastically did Makassar builders adopt the European model that even today they make un-streamlined sailing vessels in which Vasco da Gama would feel at home. The 17th century museum-piece ships in normal times collect copra from coastal towns of Celebes and adjacent islands for delivery to the port of Makassar. The Moslem Malay sailors wear fezzes and sarongs, with or without shoes and shirts.

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Geo-Graphic Brevities

FERNANDO POO: SPANISH ISLAND UNDER AFRICA'S WING

AXIS claims that Free French and British naval forces have raided the harbor of Santa Isabel, capital of Spain's colony of Fernando Poo, have spotlighted the cocoa-raising island off West Africa's coast.

Rugged, 45-mile-long Fernando Poo lies not far north of the Equator, in the Gulf of Guinea. Nineteen miles from the mainland, it points toward the right-angled turn in the coast between the French Cameroons and Britain's Nigeria.

About four times the size of Singapore Island, Fernando Poo is mountainous, rising to 10,000 feet above sea level. Its damp shores have few harbors and few settlements, but on the healthier and very fertile highlands native farmers under white supervision tend thousands of cacao trees, whose seeds produce cocoa and chocolate. Sugar cane, cotton, rubber, beeswax, and indigo are other products. Valuable tropical trees—oil palms, ebony, mahogany, and African oak—give shelter to monkeys, lemurs, porcupines, civet cats, and pythons.

Of more than 20,000 people on the island, only a few hundred are Europeans. The interior is inhabited largely by descendants of the aborigines, called Bubis.

Santa Isabel, on the north coast of the island, is the capital both of Fernando Poo and also of the other Spanish territories in the Gulf of Guinea—Rio Muni, on the African mainland, and several smaller islands.

* * * * *

LONDONERS STILL ENJOYING ENGLAND'S COAST

THE APPROACH of spring, renewing Britain's alert against invasion, brings a reminder that at any time after mid-February the Londoner's traditional week-end visit to coastal resorts may be forbidden.

To Londoners, as to all the English, the ocean is like a magnet. Much of British history has the sea for its setting. Even when it is too cold for bathing, the English go to the seaside to enjoy the bright sunshine, the clear invigorating air, and the vast expanses of washed sand.

The whole Sussex coast, connected by rail and motor roads, is one long animated playground in summer. The most popular resort is Brighton, long such a favorite with the Londoner that it is called "London-by-the-Sea."

The coast of Suffolk and Norfolk, the Anglia of old, north of the Thames estuary, has also long been popular with Londoners on vacation. This section is freer of rain than most of Britain, and the land is low, with sluggish streams. It is the "netherland" of England. Like the Netherlands, this region has its dikes and its windmills engaged in the reclamation of fertile acres. Visitors throng there to sail in miles of inland water, and to fish.

English boys and girls are nurtured on early tradition while visiting resorts. No matter to what part of England they go, each area has its historic interest (illustration, inside cover). The south coast pictures to the English child the arrival of Caesar and his Roman legions. Pevensey is developing as a watering resort largely because William the Conqueror landed there in 1066.

The Anglian coast on the east symbolizes the development of early English trade. The ports, where Netherlands influence is still reflected in the architecture, developed a prosperous trade with their Lowlands neighbors across the North Sea.

UMI

The Amazon valley gave quinine to the Netherlands Indies, rubber to Malaya. Rice, sugar cane, cacao, cassava, cotton, and tropical fruits, as well as various hardwoods, all grow in this tropical river region. Quinine, which comes to the United States in great quantities from the East Indies, is derived from the bark of the cinchona tree, a native of South America.

The product that made the Amazon valley commercially important was the hevea rubber tree, which grows wild along the river. The Brazilian plant is the father of all the rubber trees growing on Netherlands Indies, Malaya, and other great plantations in the East.

Wild rubber from the Amazon region has come from the balata and the castilloa trees, as well as the hevea. While South America was the greatest exporter of rubber, trees near the river were cut down or overworked. Thus the rubber sources became increasingly inaccessible to river transportation. Scattered wild trees could not be worked as economically as the new plantations of the East.

Note: For further information about the Amazon, see "Journey by Jungle Rivers to the Home of the Cock-of-the-Rock," *National Geographic Magazine*, November, 1933; and "The Amazon, Father of Waters," April, 1926.

The Amazon River is shown on the National Geographic Society's Map of South America, which has insets showing natural resources and airways.

Bulletin No. 2, February 16, 1942.

Kurt Heimerdinger

"RIVER WHALES" LORD IT OVER THE AMAZON'S GUPPIES

An underwater census has counted about 750 different kinds of fish, the greatest variety known in any river system. The world's largest fish living in fresh water is the submarine giant of the Amazon, the pirarucú. Attaining a length of from 6 to 15 feet and weighing up to 400 pounds, the pirarucú swims like a whale among the river's tiny guppies and the electric eels. Natives spear the fish, pull it to their boat after it is exhausted, and kill it with a machete. The dried and salted pirarucú is a staple food.

INDEX TO GEOGRAPHIC SCHOOL BULLETINS

Covering Volume XX, No. 1, February 24, 1941, through No. 30, February 16, 1942.

Editor's Note: Illustrations appearing with articles are not listed unless more than one illustration concerning the article appears in the same issue (except in the case of the Geo-Graphic Brevities).

AFRICA

Algeria: France's North Africa Colonies Hold Vital Food and Minerals, 2 ills., Apr. 7, 1941.
Belgian Congo: U.S.-to-Leopoldville Air Line Reaches Heart of African Plane Network, Jan. 5, 1942.
British Empire Territories: *See* Kenya, Southern Rhodesia, *and* Union of South Africa.
Egypt: Crisis East and West of Suez, May 19, 1941.
Nile Delta Is Egypt's Mediterranean Doormat, Nov. 10, 1941.
Additional ill.: Boys studying map, Feb. 2, 1942.
Ethiopia: Addis Ababa Sees Swift Changes in Past Decade, Apr. 21, 1941.
Royal Come-Back Capital "Somewhere in Ethiopia," Feb. 24, 1941. (Geo-Graphic Brevity).
Free French: Brazzaville on the Congo, A Free French Capital, 1 ill., Nov. 3, 1941. (Geo-Graphic Brevity).
Free French Forces Around the World, 2 ills., Feb. 9, 1942.
French Equatorial Africa: Brazzaville on the Congo, A Free French Capital, 1 ill., Nov. 3, 1941. (Geo-Graphic Brevity).
Chad, French Lakeside Colony of the Congo, Mar. 24, 1941.
French Possessions: *See* Algeria, French Equatorial Africa, French West Africa, Morocco, *and* Tunisia.
French West Africa: Ill.: Tuaregs celebrating fast of Ramadan, Agadès, Oct. 27, 1941.
Kenya: Kenya, "Best White Man's Country in Central Africa," Mar. 11, 1941.
Libia: Another Flag Change for Derna, Where American Flag Once Flew, Apr. 28, 1941.
Cirenaica Geography Sways Battle in Africa, Jan. 19, 1942.
Morocco: France's North Africa Colonies Hold Vital Food and Minerals, 2 ills., Apr. 7, 1941.
Additional ill.: Gateway to Karouiine Mosque, Fez, Nov. 24, 1941.
Portuguese Guinea: All Aboard for Bolama! Africa's New *Clipper* Stop, Mar. 3, 1941.
Southern Rhodesia: Ill.: Chromium mine, Selukwe, May 19, 1941.
Spanish Possessions: Fernando Poo: Spanish Island under Africa's Wing, Feb. 16, 1942. (Geo-Graphic Brevity).
Tunisia: France's North Africa Colonies Hold Vital Food and Minerals, 2 ills., Apr. 7, 1941.
Union of South Africa: Ill.: Native miners, Kimberley, May 5, 1941.

ASIA

General: Highlights of 1941 in War-Blazing World, Jan. 26, 1942.
Spring Brings Battles Almost Yearly, Mar. 24, 1941.
War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
Afghanistan: Afghanistan, a Friendly Barrier between India and U.S.S.R., 3 ills., Nov. 24, 1941.
Borneo (British): Asiatic Holdings of Great Britain in Shadow of "New Order," 2 ills., Mar. 3, 1941.
Sarawak Sees Sunset of White Rajah Regime, Nov. 3, 1941. (Geo-Graphic Brevity).
British Empire Territories: Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
See also Borneo (British), Burma, Ceylon, Hong Kong, India, Malay States *and* Straits Settlements.
Burma: Asiatic Holdings of Great Britain in Shadow of "New Order," 2 ills., Mar. 3, 1941.
Burma Hoists New Flag—The Peacock Emblem, 1 ill., May 19, 1941. (Geo-Graphic Brevity).
Rangoon, "End of War" Seaport, Begins the Burma Road, Dec. 8, 1941.
Additional ill.: Burma Road, Jan. 5, 1942.
Ceylon: Ill.: Perahera procession, Kandy, Mar. 3, 1941.
China: A.B.C.D. Countries: Powers of the Pacific, 3 ills., Jan. 5, 1942.
Changsha: Central China's Bastion Against Japan, Jan. 26, 1942.
Chekiang Province Occupied by the Japanese, May 19, 1941. (Geo-Graphic Brevity).
Mysterious Chinese Drug Fruit Identified and Named, May 5, 1941.
See also Hong Kong.
Free French: Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
Free French Forces Around the World, 2 ills., Feb. 9, 1942.
French Indo-China: Cambodia, Asiatic Jungle, Has Bachelor Ruler, 1 ill., Oct. 13, 1941. (Geo-Graphic Brevity).
Indo-China Gets Degree of Autonomy, Feb. 24, 1941. (Geo-Graphic Brevity).
Thai and Indo-China Sign Peace Treaty Ending Border War, Apr. 7, 1941. (Geo-Graphic Brevity).
Thailand Boundary Closed for Repairs, Feb. 24, 1941. (Geo-Graphic Brevity).
French Possessions: Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
See also French Indo-China *and* Levant States.
Hong Kong: Asiatic Holdings of Great Britain in Shadow of "New Order," 2 ills., Mar. 3, 1941.
Overloaded Hong Kong Was Vulnerable to Siege, Jan. 12, 1942.
India: Asiatic Holdings of Great Britain in Shadow of "New Order," 2 ills., Mar. 3, 1941.
India, A War Chest of the British Empire, 2 ills., Dec. 15, 1941.
Additional ill.: Gaekwar of Baroda receiving homage, Mar. 31, 1941.
Iran: Tehran Sees Two Shahs, Two Armies, in One Week, Oct. 6, 1941.
War Aid to "Arabian Nights" Ports of the Persian Gulf, Dec. 1, 1941.
Iraq: Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
Iraq Presents Problem in Billion Dollar Diplomacy, May 5, 1941.
Additional ill.: Water front, Basra, Dec. 1, 1941.
Japan: How Big an Opponent Is Japan? Jan. 5, 1942.
Palau to Timor, Route of New Japanese Air Line, Dec. 1, 1941.
Tokyo: Capital of Contradictions, Nov. 24, 1941.
War Announced to Japan's Sun Goddess at Ise Shrines, Jan. 26, 1942.
Levant States: Bible Land of Syria Proclaimed Independent Republic, 3 ills., Oct. 27, 1941.
Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
Additional ill.: Water wheel, Hama, Syria, Feb. 9, 1942.
Malay States: Asiatic Holdings of Great Britain in Shadow of "New Order," 2 ills., Mar. 3, 1941.
Jungle Malaya: A Patch of the Orient Geared to U. S. Industry, 2 ills., Mar. 10, 1941.
Jungles and Mountains of Embattled Malaya, Jan. 19, 1942.
See also Straits Settlements.
Netherlands Indies: A.B.C.D. Countries: Powers of the Pacific, 3 ills., Jan. 5, 1942.
Java the Tropical Keystone of Allied Far East Defense, 2 ills., Jan. 26, 1942.
Makassar Strait Becomes Great Naval Battleground of Indies, 2 ills., Feb. 16, 1942.
Palau to Timor, Route of New Japanese Air Line, Dec. 1, 1941.
Threatened Indies Oil Ranks Fifth in World Markets, Feb. 2, 1942.
Persian Gulf: War Aid to "Arabian Nights" Ports of Persian Gulf, Dec. 1, 1941.
Russia: *See* U.S.S.R. (Asiatic) *and* U.S.S.R. (European).
Sarawak: *See* Borneo (British).
Siam: *See* Thailand.
Siberia: *See* U.S.S.R. (Asiatic).
Singapore: *See* Straits Settlements.
Straits Settlements: Singapore, The British Lion's "Left Paw," 2 ills., Nov. 3, 1941. (Geo-Graphic Brevity).
Steel Singapore and Its Green Island, Feb. 9, 1942.
Additional ills.: Street scene, Singapore, Mar. 3, 1941; Gunners and anti-aircraft gun, Singapore, Feb. 2, 1942; Australian defender of Singapore, Feb. 16, 1942.

UMI

Many Flemish refugees in the 16th century helped with their industrial skill.

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U. S. LOOKS SOUTHWARD FOR WAR RUBBER SUPPLIES

RUBBER supplies must be made to stretch like rubber itself. This has been brought home to American motorists with the rationing of tires.

The United States is the greatest consumer of rubber in the world. British Malaya and the Netherlands Indies long have been Uncle Sam's chief source of rubber, with shipments from Ceylon, French Indo-China, and other parts of the Orient's 8,000,000 rubber-growing acres. Most of it goes into automobile tires.

Expanding production in Central and South America, it is hoped, will eventually ease the rubber shortage, with the help of synthetic and guayule rubber.

Guayule rubber is made from a shrub of that name which grows wild in the deserts of Mexico and the Big Bend area of Texas. U. S. manufacturers in 1940 obtained 2,000 tons of this. Guayule now is grown experimentally in the Salinas Valley in California, and other areas in the Southwest.

The United States and twelve Latin American countries cooperated in planting 10,000,000 seeds of hevea rubber trees last year, from Mexico to Peru. Tapping may begin when trees are four to five years old. An increased yield is counted on to offset the labor advantages of the Far East, where the trees are low-yielding.

Australian News and Information Bureau

TODAY'S BATTLE FOR RUBBER IS FOUGHT AMONG RUBBER TREES

The rubber tree, one factor in the wealth that lures the Japanese into the Malay Archipelago, aids, literally, in the war when it provides shelter like this. The soldier is an Australian, photographed while fighting to defend Singapore. In Malaya, and the Netherlands Indies also, battles have raged across rubber plantations. The sturdy tree above shows the effects of much tapping. Each morning, or every other day, a tapper scores a cut in the bark halfway around the rubber tree with a specially curved knife, sticks the spout at the end of the cut, and places a cup (or coconut shell) beneath the spout. The cut is made at an angle so that the milky sap, or latex, will drain into the spout.

General—*Continued*
What Is Your State's New Size? Oct. 6, 1941.
What To Expect in an Air Raid, Jan. 5, 1942.
World's Largest Steel Industry Supplies U. S., 2 ills., Nov. 17, 1941.
Defense Bases: Iceland, Isle of Frost and Fire, Joins Defense Line-Up, 2 ills., 1 map, Oct. 6, 1941.
Johnston Island Watched by Navy for 80 Years, Nov. 24, 1941.
New U. S. Defense Bases: Guam at Japan's Elbow, 2 ills., Mar. 17, 1941.
New U. S. Defense Bases: Samoa Takes U. S. South of the Equator, 2 ills., Mar. 24, 1941.
Ruins Dot Great Exuma Island, New U. S. Base in Bahamas, 2 ills., Nov. 17, 1941.
Seaplane Base for Palmyra, Where Crabs Pick Coconuts, Oct. 20, 1941.
U. S. Troops in Surinam Guard Important Source of Bauxite, Dec. 8, 1941.
History: Another Flag Change for Derna, Where American Flag Once Flew, Apr. 28, 1941.
Strategic Materials: Strategic Materials: No. 1, Nickel a "Must-Have" Metal, Mar. 31, 1941.
Strategic Materials: No. 2, Man's Anti-Malaria Ally—Quinine, Apr. 7, 1941.
Strategic Materials: No. 3, Tungsten "Can Take It," Apr. 21, 1941.
Strategic Materials: No. 4, Manila Rope Ties in with Defense, 2 ills., Apr. 28, 1941.
Strategic Materials: No. 5, This Liquid Metal Mercury, May 5, 1941.
Strategic Materials: No. 6, Mica the "Cellophane" Rock, May 12, 1941.
Strategic Materials: No. 7, Chromium, a Metal Cinderella, May 19, 1941.
Strategic Materials: No. 8, Silk Now Goes to War, Oct. 6, 1941.
Strategic Materials: No. 9, Antimony Is Lead's Partner, 3 ills., Oct. 20, 1941.
Strategic Materials (No. 10): Coconut Waste That Saves Lives, 2 ills., Nov. 10, 1941.
Arkansas: Ill.: "Greenville Bends," Mississippi River, Arkansas-Mississippi, May 5, 1941.
District of Columbia: Defense Emergency Gives Washington, D. C., Boom-Time Tempo, 2 ills., Apr. 7, 1941.
Additional ill.: View of Capitol and National Gallery of Art, Mar. 31, 1941.
Illinois: Ill.: Oil pipe line, Oct. 20, 1941.
Maryland: Ill.: Blast furnace, Sparrows Point, Nov. 17, 1941.
Massachusetts: Boston Shows a Cross Section of American Growth, 2 ills., May 19, 1941.
Mississippi: Ill.: "Greenville Bends," Mississippi River, Arkansas-Mississippi, May 5, 1941.
Mississippi Basin: Ol' Man River Floats Heavy Traffic 400 Years after Discovery, 2 ills., May 5, 1941.
New Jersey: Summer-Favored Atlantic City Has A.A.S.A. Winter Convention, Feb. 24, 1941.
North Carolina: "Swamp's Afire!" Is the Cry in Great Dismal, Nov. 17, 1941.
Additional ill.: Workers trimming mica, May 12, 1941.
Virginia: "Swamp's Afire!" Is the Cry in Great Dismal, Nov. 17, 1941.
Territories and Insular Possessions: *See* Alaska, Canal Zone, Defense Bases, Philippine Islands, Wake Island.
Texas: Ills.: U. S. Customs Patrol and horses, Mar. 10, 1941; Air view of Rio Grande, Oct. 6, 1941.

CENTRAL AMERICA

General: U. S. Looks Southward for War Rubber Supplies, 1 ill., Feb. 16, 1942. (Geo-Graphic Brevity).
Canal Zone: Panama a Pivot of the Americas, Nov. 3, 1941.
Caribbean Regions: Curious Curaçao, Arid Aruba Get U. S. Protection, Feb. 9, 1942.
Martinique: A French Storm Center of the Caribbean, 2 ills., Jan. 12, 1942.
Ruins Dot Great Exuma Island, New U. S. Base in Bahamas, 2 ills., Nov. 17, 1941.
U. S. Customs Control Ends in the Dominican Republic, 1 ill., Apr. 7, 1941. (Geo-Graphic Brevity).
Panama: Panama a Pivot of the Americas, Nov. 3, 1941.
Additional ill.: Barrel dropping oil on stagnant water for mosquito control, Apr. 7, 1941.

SOUTH AMERICA

General: Raw Material Oddities from Latin America for U. S. Use, Jan. 5, 1942.
U. S. Looks Southward for War Rubber Supplies, 1 ill., Feb. 16, 1942. (Geo-Graphic Brevity).
Amazon Valley: Amazon, Largest "Father of Waters," Celebrates, 2 ills., Feb. 16, 1942.
Bolivia: High Mountains Advance Aviation in Bolivia, Feb. 9, 1942. (Geo-Graphic Brevity).
Brazil: Brazil's Airports for Transatlantic Plane Ferrying, Oct. 13, 1941.
Colombia: Colombia-Venezuela Border Dispute Settled, 1 ill., May 19, 1941. (Geo-Graphic Brevity).
Peru: Ill.: Ancient wall, Cuzco, Jan. 19, 1942.
Surinam: Polyglot Paramaribo in Heart of South American "Mud Puddle," 2 ills., Mar. 10, 1941.
U. S. Troops in Surinam Guard Important Source of Bauxite, Dec. 8, 1941.
Venezuela: Colombia-Venezuela Border Dispute Settled, 1 ill., May 19, 1941. (Geo-Graphic Brevity).
Venezuela and U. S. Gasoline, Nov. 10, 1941.

AUSTRALIA

Defense: Darwin Leads Australia's Defense Parade, Feb. 2, 1942.
Mines Added to Natural Dangers of Australia's Great Barrier Reef, 1 ill., 1 map, Nov. 10, 1941.
New Guinea (Mandated): Airline Center for Gold Fields Picked as New Guinea's Capital, 1 ill., Oct. 13, 1941. (Geo-Graphic Brevity).

ISLANDS

General: Islands That Come and Go, Dec. 15, 1941.
Aruba: Curious Curaçao, Arid Aruba Get U. S. Protection, Feb. 9, 1942.
Baffin Island: Ill.: Eskimo boys eating pie, Dec. 1, 1941.
Bahama Islands: Ruins Dot Great Exuma Island, New U. S. Base in Bahamas, 2 ills., Nov. 17, 1941.
Bogoslof Island: Ill.: Smoke rolling from crater, Dec. 15, 1941.
Canary Islands: Las Palmas, Canary Island Port, Gets New Name, 1 ill., Oct. 13, 1941. (Geo-Graphic Brevity).
Curaçao: Curious Curaçao, Arid Aruba Get U. S. Protection, Feb. 9, 1942.
Dominican Republic: U. S. Customs Control Ends in the Dominican Republic, 1 ill., Apr. 7, 1941. (Geo-Graphic Brevity).
Fernando Poo: *See* Africa: Spanish Possessions.
Greenland: Ice-Capped Greenland on War-Zone Edge Gets U. S. Protection, 2 ills., Apr. 28, 1941.
Guam: New U. S. Defense Bases: Guam at Japan's Elbow, 2 ills., Mar. 17, 1941.
Iceland: Iceland, Isle of Frost and Fire, Joins Defense Line-Up, 2 ills., 1 map, Oct. 6, 1941.
Indian Ocean: Indian Ocean, Where Sea Lanes See Front-Line Warfare, 2 ills., Mar. 31, 1941.
Java: *See* Asia: Netherlands Indies.
Johnston Island: Johnston Island Watched by Navy for 80 Years, Nov. 24, 1941.
Lofoten Islands: *See* Europe: Norway.
Malta: Malta Is Hot Spot and Melting Pot of the Mediterranean, 2 ills., Feb. 2, 1942.
Marquesas Islands: Ill.: Natives preparing *poi poi*, Feb. 9, 1942.
Martinique: Martinique: A French Storm Center of the Caribbean, 2 ills., Jan. 12, 1942.
Netherlands Indies: *See* Asia: Netherlands Indies.
New Guinea: *See* Australia *and* Netherlands Indies.
Pacific Ocean: Pacific Theater of War Mapped by National Geographic Society, Feb. 2, 1942.
Palau Islands: Palau to Timor, Route of New Japanese Air Line, Dec. 1, 1941.
Palmyra: Seaplane Base for Palmyra, Where Crabs Pick Coconuts, Oct. 20, 1941.
Philippine Islands: Luzon, Largest of the Philippines, 2 ills., Jan. 12, 1942.
St. Pierre and Miquelon: St. Pierre and Miquelon: Fog-Bound Relics of French Empire, 1 ill., 1 map, Jan. 19, 1942.
Samoa: New U. S. Defense Bases: Samoa Takes U. S. South of the Equator, 2 ills., Mar. 24, 1941.
Timor: Palau to Timor, Route of New Japanese Air Line, Dec. 1, 1941.
Wake Island: Wake Island, The New Watchword for Valor, Jan. 12, 1942.
West Indies: *See* Aruba, Bahama Islands, Curaçao, *and* Martinique.

UMI

Syria: *See* Levant States.
Thailand: Thai and Indo-China Sign Peace Treaty Ending Border War, Apr. 7, 1941. (Geo-Graphic Brevity).
Thailand Boundary Closed for Repairs, Feb. 24, 1941. (Geo-Graphic Brevity).
Turkey: *See* Europe: Turkey.
U.S.S.R. (Asiatic): Gateways to Russia for U. S. Aid, Nov. 17, 1941.
Soviet Union, Giant Among Nations, Oct. 6, 1941.
See also U.S.S.R. (European).

EUROPE

General: Highlights of 1941 in War-Blazing World, Jan. 26, 1942.
Hitler's Territory Fails To Equal Napoleon's Conquests, 2 maps, Apr. 21, 1941.
Belgium: Former Belgian Territories To Be Represented in the German Reichstag, Apr. 7, 1941. (Geo-Graphic Brevity).
Bohemia-Moravia: *See* German-Held Territories.
Bulgaria: Pivotal Bulgaria Is Smallest of Independent Balkans, Mar. 3, 1941.
Quick Gazetteer of "Captive" Bulgarian Towns, Mar. 31, 1941.
Czechoslovakia: *See* German-Held Territories.
England: Londoners Still Enjoying England's Coast, Feb. 16, 1942. (Geo-Graphic Brevity).
Would Tunneling Protect the English Channel, England's Moat? 1 ill., 1 map, Feb. 24, 1941.
Additional ills.: Tom Tower, Christ Church, Oxford, Feb. 24, 1941; Fire-fighters, London, Oct. 13, 1941; School children emerging from air raid shelters, Southgate, Jan. 5, 1942.
See also Great Britain.
Estonia: Ill.: Finger wrestling, Jan. 26, 1942.
France: France Reinstates Provinces of 150 Years Ago, Oct. 27, 1941.
Vive La Republique! What Is the Name of France? Feb. 24, 1941. (Geo-Graphic Brevity).
Additional ill.: Napoleon's tomb, Paris, Feb. 9, 1942.
See also Free French *and* French Empire.
Free French: Free French Forces Around the World, 2 ills., Feb. 9, 1942.
See also Africa: Free French; Asia: Free French; *and* Islands: St. Pierre and Miquelon.
French Empire: *See* Algeria, French Equatorial Africa, French Indo-China, French West Africa, Levant States, Marquesas Islands, Martinique, Morocco, St. Pierre and Miquelon, *and* Tunisia.
German-Held Territories: Bohemia-Moravia in Central Europe's Industrial Mosaic, Dec. 8, 1941.
Highlights of 1941 in War-Blazing World, Jan. 26, 1942.
Hitler's Territory Fails To Equal Napoleon's Conquests, 2 maps, Apr. 21, 1941.
See also Belgium, Bulgaria, Estonia, France, Greece, Norway, Poland, *and* Yugoslavia.
Germany: Hitler in Napoleon's Footprints on the Moscow Front, Feb. 9, 1942.
Too Much Silesia for the Reich; Now Upper and Lower, Feb. 24, 1941. (Geo-Graphic Brevity).
Additional ill.: Troops entering the Rhineland, 1936, Mar. 24, 1941.
Great Britain: A.B.C.D. Countries: Powers of the Pacific, 3 ills., Jan. 5, 1942.
Britain's Second-Best Ports Best Situated for Lease-Lend Aid, Mar. 31, 1941.
Britons Watch Coastline Almost Half as Long as That of U. S., Mar. 17, 1941.
Curfew Again Shall Ring Tonight—in Norway, Feb. 24, 1941.
See also England *and* Scotland; *also* British Empire Territories: Australia, Bahamas, Borneo (British), Burma, Canada, Caribbean Regions, Ceylon, Hong Kong, India, Kenya, Malay States, Malta, Southern Rhodesia, Straits Settlements, *and* Union of South Africa.
Greece: Battle-Scarred Thessalonikē a World War Veteran, Mar. 17, 1941.
Evacuated Grecian Thrace Was Populous, Productive Region, Apr. 28, 1941.
Greece Safeguards Treasured Sculptures and Architecture, 2 ills., Feb. 24, 1941.
Historic Thermopylae No Longer a Narrow Pass, May 12, 1941.
Additional ill.: Boatload of octopuses, Porto Lago, Greece, Mar. 17, 1941.
Italy: Dalmatia Shifts to Italy, Oct. 13, 1941. (Geo-Graphic Brevity).
Rationed Italy Hungers for Wheat, 1 ill., Feb. 9, 1942. (Geo-Graphic Brevity).
Mediterranean Regions: Fate of Mandates after 20 Years, 3 ills., Dec. 8, 1941.
Malta Is Hot Spot and Melting Pot of the Mediterranean, 2 ills., Feb. 2, 1942.
Netherlands Empire: *See* Aruba, Curaçao, Netherlands Indies, *and* Surinam.
Norway: Curfew Again Shall Ring Tonight—in Norway, Feb. 24, 1941.
Norway's Lofoten Islands Provide Fish and Vitamins, 1 ill., Feb. 9, 1942. (Geo-Graphic Brevity).
Poland: Kraków Regains Capital Status, Apr. 7, 1941.
Portuguese Empire: *See* Portuguese Guinea *and* Timor.
Russia: *See* U.S.S.R. (Asiatic) *and* U.S.S.R. (European).
Scotland: Clydeside, Home of Ocean Liners, Battered by Ships of the Air, Apr. 7, 1941.
Additional ill.: St. Andrews, Scotland, Mar. 17, 1941.
Spain: Spain: The "Hungry Man" of Europe, Mar. 3, 1941.
See also Canary Islands *and* Fernando Poo.
Turkey: Turkey-in-Europe Gives Ankara Vital Stake in Balkan Events, 2 ills., Mar. 24, 1941.
U. S. S. R. (European): Big Four of Russia's Beleaguered Cities, Oct. 20, 1941.
Crimean Peninsula: Key to the Black Sea, Dec. 1, 1941.
Gateways to Russia for U. S. Aid, Nov. 17, 1941.
Hitler in Napoleon's Footprints on the Moscow Front, Feb. 9, 1942.
Rostov and Sea of Azov Lie Athwart Road to Caucasus, Dec. 15, 1941.
Russia's Ace-in-the-Hole Capitals, Nov. 10, 1941.
Russia's Invaders Always Aim at Moscow, Nov. 3, 1941.
Russia's Rich Oil Reserves, Found from Volga to Pacific, Dec. 8, 1941.
Russia's Ukraine Holds Grain and Mineral Riches, Oct. 13, 1941.
Valuable Donets Basin Known as "Soviet Pennsylvania," Feb. 9, 1942. (Geo-Graphic Brevity).
War Geography of U.S.S.R. Has Similarities in U.S.A., Nov. 24, 1941.
See also U.S.S.R. (Asiatic).
Yugoslavia: Croatia a Vital Region of Yugoslavia, 3 ills., Apr. 21, 1941.
Dalmatia Shifts to Italy, Oct. 13, 1941. (Geo-Graphic Brevity).
Historic Spots in Yugoslavia Blighted by War, Apr. 28, 1941.
More Copper for Germany from Yugoslavia's Bor Mines, Mar. 10, 1941.
Sad Revival for the "Merry Widow" Kingdom of Montenegro, Oct. 20, 1941.
Surrounded Yugoslavia a Victim of Geographic Position, Mar. 24, 1941.

NORTH AMERICA

Alaska: Alaska Celebrates 75 Years with Uncle Sam, 2 ills., Jan. 26, 1942.
Canada: Cañada Makes Close Harmony on Continental Scale, 3 ills., Dec. 1, 1941.
Halifax Offers Short Cut to British Aid Shipments, May 12, 1941.
Mexico: Chapultepec Palace Sees Turbulent Mexican History, Oct. 27, 1941.
Expedition Discovers Large Cache of Mexican Jade Objects, 3 ills., May 12, 1941.
Scientific Exploration in 1941 Pushed in the Americas, 2 ills., Jan. 19, 1942.

UNITED STATES

General: A.B.C.D. Countries: Powers of the Pacific, 3 ills., Jan. 5, 1942.
Highlights of 1941 in War-Blazing World, Jan. 26, 1942.
New Smaller Official Area Calculated for the United States, May 19, 1941. (Geo-Graphic Brevity).
War Geography of U.S.S.R. Has Similarities in U.S.A., Nov. 24, 1941.
War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
What Is the Best Defense Against Air Raids? Feb. 2, 1942.

Corn: Indian corn, Yugoslavia, Mar. 10, 1941.
Cotton: Ill.: Steamboat loaded with cotton cargo, Mississippi River, Dec. 15, 1941.
Diamonds: Everyday Diamonds That Go To Work, 2 ills., May 5, 1941.
Fishes and Fisheries: Ills.: Drying nets, Lake Ohrid, Yugoslavia, Mar. 24, 1941; Fisherman and net, Guam, Mar. 17, 1941; Boatload of octopuses, Greece, Mar. 17, 1941; Women drying codfish, Iceland, Oct. 6, 1941; Fishing fleet, Panama City, Nov. 3, 1941; Norwegian fishermen with cod, Feb. 9, 1942; Native with pirarucú from Amazon River, Brazil, Feb. 16, 1942.
Gasoline: *See* Oil.
Harbors and Ports: Britain's Second-Best Ports Best Situated for Lease-Lend Aid, Mar. 31, 1941.
Clydeside, Home of Ocean Liners, Battered by Ships of the Air, Apr. 7, 1941.
Darwin Leads Australia's Defense Parade, Feb. 2, 1942.
Gateways to Russia for U. S. Aid, Nov. 17, 1941.
Halifax Offers Short Cut to British Aid Shipments, May 12, 1941.
Las Palmas, Canary Island Port, Gets New Name, 1 ill., Oct. 13, 1941. (Geo-Graphic Brevity)
Rangoon, "End of War" Seaport, Begins the Burma Road, Dec. 8, 1941.
Rostov and Sea of Azov Lie Athwart Road to Caucasus, Dec. 15, 1941.
Steel Singapore and Its Green Island, Feb. 9, 1942.
War Aid to "Arabian Nights" Ports of Persian Gulf, Dec. 1, 1941.
Additional ills.: Air view of São Luiz do Maranhão, Brazil, Oct. 13, 1941; Waterfront, Leningrad, U.S.S.R., Oct. 20, 1941; Kotor, Yugoslavia, Oct. 20, 1941; Hong Kong, Jan. 12, 1942; Grand Harbour, Malta, Feb. 2, 1942.
Imports and Exports: Raw Material Oddities from Latin America for U. S. Use, Jan. 5, 1942.
U. S. Looks Southward for War Rubber Supplies, 1 ill., Feb. 16, 1942. (Geo-Graphic Brevity)
See also United States: Strategic Materials.
Iron and Steel: World's Largest Steel Industry Supplies U. S., 2 ills., Nov. 17, 1941.
Irrigation: Ills.: Irrigation canal, Egypt, Nov. 11, 1941; Water wheel, Orontes River, Hama, Syria, Feb. 9, 1942.
See also Dams.
Lead: Strategic Materials: No. 9, Antimony Is Lead's Partner, 3 ills., Oct. 20, 1941.
Lumbering: Ills.: Peeled logs, Nova Scotia, Dec. 1, 1941; Quebracho logs, Paraguay River, Jan. 5, 1942.
Manila Fiber: Strategic Materials: No. 4, Manila Rope Ties in with Defense, 2 ills., Apr. 28, 1941.
Markets and Venders: Ills.: Venders and wool, Sofiya, Bulgaria, Mar. 3, 1941; Ukrainian peddler, Kolomyja, Poland, Oct. 13, 1941.
See also Bazaars.
Mercury: Strategic Materials: No. 5, This Liquid Metal Mercury, May 5, 1941.
Mica: Strategic Materials: No. 6, Mica the "Cellophane" Rock, May 12, 1941.
Mines and Minerals: Canada Makes Close Harmony on Continental Scale, 3 ills., Dec. 1, 1941.
Russia's Ukraine Holds Grain and Mineral Riches, Oct. 13, 1941.
Valuable Donets Basin Known as "Soviet Pennsylvania," Feb. 9, 1942. (Geo-Graphic Brevity)
Additional ills.: Chromium mine, Southern Rhodesia, May 19, 1941; Tin mine, Malaya, Jan. 19, 1942.
See also Antimony, Bauxite, Chromium, Copper, Diamonds, Iron and Steel, Lead, Mica, Nickel, Tin, *and* Tungsten.
Nickel: Strategic Materials: No. 1, Nickel a "Must-Have" Metal, Mar. 31, 1941.
Oil: Curious Curaçao, Arid Aruba Get U. S. Protection, Feb. 9, 1942.
Iraq Presents Problem in Billion Dollar Diplomacy, May 5, 1941.
Pipe Lines, the Underground Arteries of Oil, Oct. 20, 1941.
Russia's Rich Oil Reserves, Found from Volga to Pacific, Dec. 8, 1941.
Simple Arithmetic of Complex High-Octane Gasoline, Dec. 1, 1941.
Threatened Indies Oil Ranks Fifth in World Markets, Feb. 2, 1942.
Venezuela and U. S. Gasoline, Nov. 10, 1941.
Quinine: Strategic Materials: No. 2, Man's Anti-Malaria Ally—Quinine, Apr. 7, 1941.
Rice: Ills.: Cultivating rice lands, Java, Jan. 26, 1942; Women planting rice, China, Jan. 26, 1942.
Rubber: Jungle Malaya: A Patch of the Orient Geared to U. S. Industry, 2 ills., Mar. 10, 1941.
U. S. Looks Southward for War Rubber Supplies, 1 ill., Feb. 16, 1942. (Geo-Graphic Brevity)
Additional ill.: Rubber respirator, Oct. 27, 1941.
Sheep and Sheep Raising: Ills.: Shepherds and sheep, Córdoba, Spain, Mar. 3, 1941; Sheep, Morocco, Apr. 7, 1941; Shepherds with automobile and sheep, Syria, Oct. 27, 1941.
Silk: Strategic Materials: No. 8, Silk Now Goes to War, Oct. 6, 1941.
Sponges: Ill.: Natives sponging, Bahama Islands, Nov. 17, 1941.
Steel: *See* Iron and Steel.
Tin: Jungle Malaya: A Patch ot the Orient Geared to U. S. Industry, 2 ills., Mar. 10, 1941.
Additional ill.: Tin mine, Malaya, Jan. 19, 1942.
Tung Oil: Tung Oil No Longer Flows from China's East Coast, Nov. 3, 1941.
Tungsten: Strategic Materials: No. 3, Tungsten "Can Take It", Apr. 21, 1941.
Wheat: Rationed Italy Hungers for Wheat, 1 ill., Feb. 9, 1942. (Geo-Graphic Brevity)
Wool: Ills.: Venders with raw wool, Sofiya, Bulgaria, Mar. 3, 1941; Piles of wool, Summer Street, Boston, May 19, 1941.

PEOPLES AND CULTURES

Air Raids: What Is the Best Defense Against Air Raids? Feb. 2, 1942.
What To Expect in an Air Raid, Jan. 5, 1942.
Archeology: Expedition Discovers Large Cache of Mexican Jade Objects, 3 ills., May 12, 1941.
Scientific Exploration in 1941 Pushed in the Americas, 2 ills., Jan. 19, 1942.
Architecture: Greece Safeguards Treasured Sculptures and Architecture, 2 ills., Feb. 24, 1941.
Additional ills.: Columns, Parthenon, Athens, Feb. 24, 1941; Tom Tower, Christ Church, Oxford, England, Feb. 24, 1941; Faneuil Hall, Boston, May 19, 1941; Capitol and National Gallery, Washington, D. C., Mar. 31, 1941; City Hall, Tehran, Iran, Oct. 6, 1941; Dome of St. Isaac's Cathedral, Leningrad, U.S.S.R., Nov. 3, 1941; Onion-shaped cupolas, Moscow, U.S.S.R., Nov. 3, 1941; Church, Kuibyshev, U.S.S.R., Nov. 10, 1941; Modern school, Tokyo, Japan, Nov. 24, 1941; Dutch-provincial, Paramaribo, Surinam, Dec. 8, 1941; Ancient wall, Cuzco, Peru, Jan. 19, 1942; Chinese temple, Singapore, Feb. 9, 1942.
See also Castles and Palaces; Churches, Cathedrals, and Mosques; *and* Pagodas.
Art: Greece Safeguards Treasured Sculptures and Architecture, 2 ills., Feb. 24, 1941.
New National Gallery of Art Gives U. S. "Little Louvre," 2 ills., Mar. 31, 1941.
Camouflage: Camouflage Follows Law of the Jungle, 2 ills., Mar. 3, 1941.
Castles and Palaces: Chapultepec Palace Sees Turbulent Mexican History, Oct. 27, 1941.
Children: Ills.: Children with mother, Yugoslavia, Mar. 10, 1941; Lapp school children, May 19, 1941; Infantile paralysis victim, Oct. 27, 1941; Boy riding turtle, Bahama Islands, Nov. 17, 1941; School children, Tokyo, Japan, Nov. 24, 1941; Watching bird-charmer, Afghanistan, Nov. 24, 1941; Eskimo boys eating pie, Baffin Island, Dec. 1, 1941; Children walking on peeled logs, Canada, Dec. 1, 1941; Boys learning to write, India, Dec. 15, 1941; Mother bathing child, Don River, U.S.S.R., Dec. 15, 1941; Boy with giant banana, Netherlands Indies, Jan. 5, 1942; Chinese children, Singapore, Jan. 5, 1942; Shooting toy guns, Japan, Jan. 5, 1942; School children emerging from air raid shelters, England, Jan. 5, 1942; Indian boys, Alaska, Jan. 26, 1942; Children watching parents preparing food, Marquesas Islands, Feb. 9, 1942.
Churches, Cathedrals, and Mosques: Ills.: Mosques, Istanbul, Mar. 24, 1941; Mosque of Sidi Mahrez, Tunis, Apr. 7, 1941; St. Mark's Church, Zagreb, Yugoslavia, Apr. 21, 1941; Mosque, Derna, Libia, Apr. 28, 1941; Church, Canary Islands, Oct. 13, 1941; Dome of St. Isaac's Cathedral, Leningrad, U.S.S.R., Oct. 20, 1941; Church, Kuibyshev, U.S.S.R., Nov. 10, 1941; Gateway to Karouiine Mosque, Fez, Morocco, Nov. 24, 1941; Church steeples, Paramaribo, Surinam, Dec. 8, 1941.

UMI

POLAR REGIONS

Alaska: Alaska Celebrates 75 Years with Uncle Sam, 2 ills., Jan. 26, 1942.
Antarctic Regions: White Continent of Zero Temperatures, Zero Population, Feb. 24, 1941. (Geo-Graphic Brevity).
Lofoten Islands: Norway's Lofoten Islands Provide Fish and Vitamins, 1 ill., Feb. 9, 1942. (Geo-Graphic Brevity).
See also Islands: Baffin Island, Bogoslof Island, Greenland, *and* Iceland.

GEOGRAPHY, MAPS, AND MAP MAKING

Geography: Cirenaica Geography Sways Battle in Africa, Jan. 19, 1942.
Great-Grandfather Geographies, Apr. 21, 1941.
Now Is the Time . . . to Teach Geography. Feb. 2, 1942. (Quotation from speech by Dr. John W. Studebaker).
War Geography of U.S.S.R. Has Similarities in U.S.A., Nov. 24, 1941.
What Does the Western Hemisphere Include? Mar. 17, 1941.
What Is Your State's New Size? Oct. 6, 1941.
See also Physical Geography.
Map Making: Pacific Theater of War Mapped by National Geographic Society, Feb. 2, 1942.
What Does the Western Hemisphere Include? Mar. 17, 1941.
Additional ill.: Making hachures on map, May 12, 1941.
Maps: English Channel, Feb. 24, 1941; Napoleonic Europe, 1812, and Hitler Europe, 1941, compared (2 maps). Apr. 21, 1941; Iceland (economic map), Oct. 6, 1941; Great Barrier Reef, Australia, Nov. 10, 1941; St. Pierre and Miquelon, Jan. 19, 1942.
Additional ills.: Boys studying map, Egypt, Feb. 2, 1942; Ancient map of Pacific Ocean, Feb. 2, 1942.

TRANSPORTATION AND COMMUNICATIONS

General: War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
Animals: Should Dobbin Be Drafted? Mar. 10, 1941.
Additional ills.: Camels, Suez Canal, May 19, 1941; Horse, Kolomyja, Poland, Oct. 13, 1941; Horses. Andes Mountains, South America, Oct. 30, 1941; Syrians selling mule, Oct. 27, 1941; Dromedaries. Agadès, French West Africa, Oct. 27, 1941; Horse- and camel-drawn carts, Kuibyshev, U.S.S.R., Nov. 10, 1941; Horse wearing gas mask, Nov. 10, 1941; Ox-cart, Martinique, Jan. 12, 1942; Donkeys, Cuzco, Peru, Jan. 19, 1942.
See also Natural History: Animals.
Automobiles: Ills.: Parked automobiles, Washington, D. C., Apr. 7, 1941; Andes Mountains, South America, Oct. 20, 1941; Bedouin shepherds use automobile, Syria, Oct. 27, 1941; Highway, Syria, Oct. 27, 1941; Rangoon, Burma, Dec. 8, 1941; Martinique, Jan. 12, 1942.
Aviation: Airline Center for Gold Fields Picked as New Guinea's Capital, 1 ill., Oct. 13, 1941. (Geo-Graphic Brevity).
All Aboard for Bolama! Africa's New *Clipper* Stop, Mar. 3, 1941.
Brazil's Airports for Transatlantic Plane Ferrying, Oct. 13, 1941.
High Mountains Advance Aviation in Bolivia, Feb. 9, 1942. (Geo-Graphic Brevity).
Palau to Timor, Route of New Japanese Air Line, Dec. 1, 1941.
Seaplane Base for Palmyra, Where Crabs Pick Coconuts, Oct. 20, 1941.
Simple Arithmetic of Complex High-Octane Gasoline, Dec. 1, 1941.
U. S.-to-Leopoldville Air Line Reaches Heart of African Plane Network, Jan. 5, 1942.
Additional ills.: Air view of airplane flying over the Rio Grande, Oct. 6, 1941; Pan American Airways System station, Wake Island, Jan. 12, 1942.
Bicycles: Ill.: Native women with bicycle, Belgian Congo, Jan. 5, 1942.
Boats and Ships: Clydeside, Home of Ocean Liners, Battered by Ships of the Air, Apr. 7, 1941.
How Heavy Is a Ton of Shipping? May 19, 1941. (Geo-Graphic Brevity).
Indian Ocean, Where Sea Lanes See Front-Line Warfare, 2 ills., Mar. 31, 1941.
Mississippi Traffic Makes Travel History, 2 ills., Dec. 15, 1941.
What's in a Ship? Nov. 3, 1941.
Additional ills.: Boats, Bosporus Strait, Turkey, (2 ills.), Mar. 24, 1941; Eskimos sewing kayak, Greenland, Apr. 28, 1941; Native rafts (*keleks*), Tigris River, Iraq, May 5, 1941; Stern-wheeler, Mississippi River, May 5, 1941; Air view, São Luiz do Maranhão, Brazil, Oct. 13, 1941; Water front, Leningrad, U.S.S.R., Oct. 20, 1941; Ship anchored at Kotor, Yugoslavia, Oct. 20, 1941; Fishing fleet, Panama City, Nov. 3, 1941; Water front, Basra, Iraq, Dec. 1, 1941; River barges, Don River, U.S.S.R., Dec. 15, 1941; Cotton being unloaded from steamboat, Mississippi River, Dec. 15, 1941; Aircraft carrier, Hong Kong, Jan. 12, 1942; Ships, Grand Harbour, Malta, Feb. 2, 1942; Sailing vessel, Makassar Strait, Feb. 16, 1942.
Bridges: Ills.: Moorish bridge, Córdoba, Spain, Mar. 3, 1941; Galata Bridge, Istanbul, Mar. 24, 1941; Pontoon bridge of boats, Kweilin, China, May 5, 1941; Bridge over Tachira River, Venezuela-Colombia, May 19, 1941; Bridge over Moskva River at Moscow, U.S.S.R., Nov. 3, 1941; Bridge leading to Sumiyoshi Shrine, Japan, Jan. 26, 1942.
Canals: Crisis East and West of Suez, May 19, 1941.
Panama a Pivot of the Americas, Nov. 3, 1941.
Carts: Ills.: Two wheeled cart, Carcassonne, France, Oct. 27, 1941; Horse- and camel-drawn wooden carts, Kuibyshev, U.S.S.R., Nov. 10, 1941; Ox-cart, Martinique, Jan. 12, 1942.
Busses: Ills.: Busses, Tehran, Iran, Oct. 6, 1941.
Highways and Roads: Rangoon, "End of War" Seaport, Begins the Burma Road, Dec. 8, 1941.
Additional ill.: Roman road, Syria, Oct. 27, 1941.
Pipe Lines: Pipe Lines, the Underground Arteries of Oil, Oct. 20, 1941.
Railroads: War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
Rickshaw: Ill.: Rangoon, Burma, Dec. 8, 1941.
Rivers: Amazon, Largest "Father of Waters," Celebrates, 2 ills., Feb. 16, 1942.
Mississippi Traffic Makes Travel History, 2 ills., Dec. 15, 1941.
Ol' Man River Floats Heavy Traffic 400 Years after Discovery, 2 ills., May 5, 1941.
See also Physical Geography: Rivers.
Telephone Cables: Ills.: Splicing telephone cables, New York, Mar. 31, 1941; Telephone cable, Chile-Argentina, Oct. 20, 1941.
Tractors: Ill.: Laying pipe line, Illinois, Oct. 20, 1941.
Tunnels: Would Tunneling Protect the English Channel, England's Moat? 1 ill., 1 map, Feb. 24, 1941.

COMMERCE, INDUSTRY, AND AGRICULTURE

General: Bohemia-Moravia in Central Europe's Industrial Mosaic, Dec. 8, 1941.
India, A War Chest of the British Empire, 2 ills., Dec. 15, 1941.
Agriculture: Rationed Italy Hungers for Wheat, 1 ill., Feb. 9, 1942. (Geo-Graphic Brevity)
Russia's Ukraine Holds Grain and Mineral Riches, Oct. 13, 1941.
Spain: The "Hungry Man" of Europe, Mar. 3, 1941.
Additional ills.: Cultivating rice lands, Java, Jan. 26, 1942; Women planting rice, China, Jan. 26, 1942.
Antimony: Strategic Materials: No. 9, Antimony Is Lead's Partner, 3 ills., Oct. 20, 1941.
Bauxite: U. S. Troops in Surinam Guard Important Source of Bauxite, Dec. 8, 1941.
Bazaars: Ills.: Silk merchant, Afghanistan, Oct. 6, 1941; Merchant drinking tea, Ghazni, Afghanistan, Nov. 24, 1941.
Chromium: Strategic Materials: No. 7, Chromium, a Metal Cinderella, May 19, 1941.
Coconuts: Strategic Materials (No. 10): Coconut Waste That Saves Lives, 2 ills., Nov. 10, 1941.
Copper: More Copper for Germany from Yugoslavia's Bor Mines, Mar. 10, 1941.

Races and Tribes—*Continued*
with cross-bow, French Indo-China, Oct. 13, 1941; Syrians, Oct. 27, 1941; Tuaregs, Agadès, French West Africa, Oct. 27, 1941; Chinese girls, Singapore, Nov. 3, 1941; Natives, Brazzaville, French Equatorial Africa, Nov. 3, 1941; Bedouin girl wearing jewelry, Dec. 8, 1941; Natives with their ruler, Rei Bouba, Africa, Dec. 8, 1941; Men weaving, India, Dec. 15, 1941; Native women with bicycle, Belgian Congo, Jan. 5, 1942; Filipino cadets, Jan. 12, 1942; Bedouin girl at well, Cirenaica, Jan. 19, 1942; Natives, Java, Jan. 26, 1942; Chinese girls in front of Chinese temple, Singapore, Feb. 9, 1942; Natives preparing *poi poi*, Marquesas Islands, Feb. 9, 1942; Natives, Amazon valley, South America, Feb. 16, 1942.
See also Eskimos and Indians.

Religion: Muftis Interpret Moslem Law, Nov. 24, 1941.
Sacred Fast of Ramadan Observed by Moslem World, Oct. 27, 1941.
War Announced to Japan's Sun Goddess at Ise Shrines, Jan. 26, 1942.
Additional ill.: Buddha, Tiger Temple, Singapore, Nov. 3, 1941.

Sailors: Ill.: Cleaning gun, *U.S.S. Arkansas*, Oct. 20, 1941.

Sculpture: Greece Safeguards Treasured Sculptures and Architecture, 2 ills., Feb. 24, 1941.
Additional ills.: "Hermes Carrying the Infant Dionysius," Feb. 24, 1941; Ruins, Ta Projm, French Indo-China, Oct. 13, 1941; Giant head, Mexico, Jan. 19, 1942.

Soldiers: Ills.: Iceland, Oct. 6, 1941; U. S. soldier and horse in gas masks, Nov. 10, 1941; Indian soldiers, Canada, Dec. 1, 1941; Filipino cadets, Jan. 12, 1942; Gunners and anti-aircraft gun, Singapore, Feb. 2, 1942; Australian defender of Singapore, Feb. 16, 1942.

Sports and Games: Ills.: Playing golf on beach, Midway Island, Nov. 24, 1941; Finger wrestling, Estonia, Jan. 26, 1942.

Statues and Monuments: Ills.: Navy and Marine Memorial, Washington, D. C., Apr. 7, 1941; Statue of Gregory Ninsky (Mestrovic), Yugoslavia, Apr. 21, 1941; Christ of the Andes, South America, Oct. 20, 1941; Figures around Napoleon's tomb, Paris, France, Feb. 9, 1942.

Temples: Ills.: Interior of Tiger Temple, Singapore, Nov. 3, 1941; Chinese temple, Singapore, Feb. 9, 1942.

Tombs: Ill.: Tomb of Napoleon, Paris, France, Feb. 9, 1942.

Towers: Ills.: Tom Tower, Christ Church, Oxford, England, Feb. 24, 1941; Fire Tower, Istanbul, Turkey, Mar. 24, 1941; White Tower, Thessalonikē, Greece, Mar. 17, 1941.

NATURAL HISTORY

Animals: Ills.: Temple elephant, Ceylon, Mar. 3, 1941; Snowshoe rabbit, Mar. 3, 1941; Polar bear cub, Greenland, Apr. 28, 1941; Tiger and leopard skins, Singapore, Mar. 10, 1941; Boy riding turtle, Bahama Islands, Nov. 17, 1941; Natives hauling crocodile uphill, New Guinea, Dec. 8, 1941; Eskimo lassoing reindeer, Jan. 26, 1942; Indian boys with dog, Alaska, Jan. 26, 1942; Water buffalo, Java, Jan. 26, 1942; Boy selling milk from goat, Valletta, Malta, Feb. 2, 1942; Dog belonging to natives, South America, Feb. 16, 1942.
See also Transportation: Animals, *and* Commerce, Industry, and Agriculture: Sheep and Sheep Raising.

Birds: Johnston Island Watched by Navy for 80 Years, Nov. 24, 1941.
Additional ills.: Afghan bird-charmer's pets, Nov. 24, 1941; Pet birds, Java, Jan. 26, 1942.

Fish: *See* Commerce, Industry, and Agriculture: Fishes and Fisheries.

Fruit: Strategic Materials (No. 10): Coconut Waste That Saves Lives, 2 ills., Nov. 10, 1941.
Additional ill.: Boy with giant banana (*pisang*), Netherlands Indies, Jan. 5, 1942.

Insects: Ill.: Caterpillar of swallow-tail butterfly, Mar. 3, 1941.

Mistletoe: Pesky Mistletoe Makes Christmas Merry and Mischievous, Dec. 15, 1941.

Octopuses: Devil-of-the-Deep Family Has Octopus Named for Roosevelt, 2 ills., Mar. 17, 1941.

Plants: Mysterious Chinese Drug Fruit Identified and Named, May 5, 1941.
See also Mistletoe.

Shells: Ill.: Woman lying in giant clam shell, Australia, Nov. 10, 1941.

Trees: Ills.: Frankincense tree, Island of Socotra, Mar. 31, 1941; Concrete replica of ceiba tree where Columbus moored ship, Santo Domingo, Apr. 7, 1941; Banana trees, Las Palmas de Gran Canaria, Oct. 13, 1941; Tung tree, Mississippi, Nov. 3, 1941; Coconut palm, Venezuela, Nov. 10, 1941; Tree with growth of mistletoe, Dec. 15, 1941; Tree bent by wind, Aruba, Feb. 9, 1942; Trunk of rubber tree, Malaya, Feb. 16, 1942.

PHYSICAL GEOGRAPHY

Atoll: Ill.: Palmyra, Pacific Ocean, Oct. 20, 1941.

Bays: Ills.: Montenegro, Yugoslavia, Oct. 20, 1941; Darwin, Australia, Feb. 2, 1942.

Beaches: Ills.: Beach and chalk cliff, St. Margaret's Bay, England, Feb. 24, 1941; Beach and boardwalk, Atlantic City, Feb. 24, 1941; Beach at Bosham, England, Feb. 16, 1942.

Cliffs: Ills.: South Foreland (chalk cliff), St. Margaret's Bay, England, Feb. 24, 1941.

Coral Reefs: Mines Added to Natural Dangers of Australia's Great Barrier Reef, 1 ill., 1 map, Nov. 10, 1941.

Deserts: Cirenaica Geography Sways Battle in Africa, Jan. 19, 1942.
Additional ill.: Syria, Oct. 27, 1941.

Lakes: Chad, French Lakeside Colony of the Congo, Mar. 24, 1941.
Additional ill.: Nets drying on shore of Lake Ohrid, Yugoslavia, Mar. 24, 1941.

Mountains: Ills.: Andes Mountains, South America, Oct. 20, 1941; Montenegro, Yugoslavia, Oct. 20, 1941; Landslide, Burma Road, Jan. 5, 1942.

Oceans: Indian Ocean, Where Sea Lanes See Front-Line Warfare, 2 ills., Mar. 31, 1941.
Pacific Theater of War Mapped by National Geographic Society, Feb. 2, 1942.

Passes: Historic Thermopylae No Longer a Narrow Pass, May 12, 1941.

Rivers: Amazon, Largest "Father of Waters," Celebrates, 2 ills., Feb. 16, 1942.
Nile Delta Is Egypt's Mediterranean Doormat, Nov. 10, 1941.
Additional ills.: Guadalquivir River, Córdoba, Spain, Mar. 3, 1941; Junction of Sava River with the Danube, Beograd, Yugoslavia, Apr. 28, 1941; Tigris River, Iraq, May 5, 1941; Air view of the Rio Grande, Oct. 6, 1941; Neva River, Leningrad, U.S.S.R., Oct. 20, 1941; Moskva River, Moscow, U.S.S.R., Nov. 3, 1941; Shatt-al-Arab River, Basra, Iraq, Dec. 1, 1941; Don River, U.S.S.R., Dec. 15, 1941; Steamboat, Mississippi River, Dec. 15, 1941; Paraguay River, South America, Jan. 5, 1942; Oronte River, Hama, Syria, Feb. 9, 1942.

Straits and Channels: Makassar Strait Becomes Great Naval Battleground of Indies, 2 ills., Feb. 16, 1942.
Would Tunneling Protect the English Channel, England's Moat? 1 ill., 1 map, Feb. 24, 1941.

Swamps: "Swamp's Afire!" Is the Cry in Great Dismal, Nov. 17, 1941.

Volcanoes: Ills.: Submarine volcano, Bogoslof Island, Dec. 15, 1941; Lava streams, Martinique, Jan. 12, 1942; Java, Jan. 26, 1942.

SCIENCE

Astronomy: Aurora Borealis Drops Some of Its Mystery, Oct. 13, 1941.

Chemistry: Chemical Clothing from Head to Foot, Jan. 12, 1942.
Simple Arithmetic of Complex High-Octane Gasoline, Dec. 1, 1941.
Strategic Materials (No. 10): Coconut Waste That Saves Lives, 2 ills., Nov. 10, 1941.

Engineering: War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
See also Irrigation.

Machinery, Instruments, etc.: Everyday Diamonds That Go To Work, 2 ills., May 5, 1941.
Strategic Materials: No. 1, Nickel a "Must-Have" Metal, Mar. 31, 1941.
Additional ills.: Inspecting magnified tungsten filaments, Apr. 21, 1941; Making fever thermometers, May 5, 1941; Photographing eclipse of the sun (1936), Oct. 6, 1941; Typesetting machine for Bengali language, Oct. 20, 1941; Spinning rayon thread, Jan. 12, 1942.

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Costumes and Clothing: Chemical Clothing from Head to Foot, Jan. 12, 1942.
Additional ills.: Greek evzones, Athens, Feb. 24, 1941, and May 12, 1941; Negro women, Surinam, Mar. 10, 1941; East Indian woman, Surinam, Mar. 10, 1941; Serbian woman and children, Mar. 10, 1941; Croatian women, Yugoslavia, Apr. 21, 1941; Lapp children, May 19, 1941; Iceland women, Oct. 6, 1941; Silk merchant, Afghanistan, Oct. 6, 1941; Ukrainian peddler, Kolomyja, Poland, Oct. 13, 1941; Syrians, Oct. 27, 1941; Tuaregs, Agadès, French West Africa, Oct. 27, 1941; Chinese girls, Singapore, Nov. 3, 1941; Turkoman wearing shako (headdress), Afghanistan, Nov. 24, 1941; Afghan bird-charmer, Nov. 24, 1941; Moslems, Karouiine Mosque, Fez, Morocco, Nov. 24, 1941; Bedouin girl wearing jewelry, Dec. 8, 1941; Kashmir boys writing, India, Dec. 15, 1941; Hyderabad men weaving, India, Dec. 15, 1941; Japanese boys in military dress, Jan. 5, 1942; Native women, Belgian Congo, Jan. 5, 1942; Bedouin girl, Cirenaica, Jan. 19, 1942; Finger wrestlers, Estonia, Jan. 26, 1942; Native girl with sarong, Celebes, Feb. 16, 1942.
Curfews: Curfew Again Shall Ring Tonight—in Norway, Feb. 24, 1941.
Dams: War Needs Stressed in Engineering Projects of 1941, Jan. 19, 1942.
Additional ill.: Penstock linings, Grand Coulee Dam, Jan. 19, 1942.
See also Irrigation.
Dancers and Dancing: Croatian women dancing, Yugoslavia, Apr. 21, 1941.
Dwellings: Ills.: Village, Lake Chad region, Africa, Mar. 24, 1941; Fishermen's village, Guam, Mar. 17, 1941; Woven matting and thatched house in Malay States, Mar. 10, 1941; Beehive homes, Syria, Oct. 27, 1941; Clay huts, Brazzaville, French Equatorial Africa, Nov. 3, 1941; Natives building mud and branch house, Venezuela, Nov. 10, 1941; Council house, Palau Islands, Dec. 1, 1941; Paramaribo, Surinam, Dec. 8, 1941; St. Pierre (island), Jan. 19, 1942; House near beach, Bosham, England, Feb. 16, 1942; Communal hut, South America, Feb. 16, 1942.
Education: Boston Shows a Cross Section of American Growth, 2 ills., May 19, 1941.
Graduation Brings Odd Diplomas Around the World, May 19, 1941.
Great-Grandfather Geographies, Apr. 21, 1941.
Now Is the Time . . . to Teach Geography. Feb. 2, 1942. (Quotation from speech by Dr. John W. Studebaker).
Summer-Favored Atlantic City Has A.A.S.A. Winter Convention, Feb. 24, 1941.
Additional ill.: Boys learning to write, India, Dec. 15, 1941.
Electricity: Electricity the Third Hand of Man, Oct. 27, 1941.
Eskimos and Indians: Ills.: Eskimos sewing kayak, Greenland, Apr. 28, 1941; Eskimo boys eating pie, Baffin Island, Dec. 1, 1941; Indians smoking peace pipe with Prime Minister, Canada, Dec. 1, 1941; Indian boys, Alaska, Jan. 26, 1942; Eskimo lassoing reindeer, Jan. 26, 1942; Indians, South America, Feb. 16, 1942.
Expeditions and Exploration: Expedition Discovers Large Cache of Mexican Jade Objects, 3 ills., May 12, 1941.
Scientific Exploration in 1941 Pushed in the Americas, 2 ills., Jan. 19, 1942.
White Continent of Zero Temperatures, Zero Population, Feb. 24, 1941. (Geo-Graphic Brevity)
Additional ill.: Photographing eclipse of the sun (1936), Ak Bulak, U.S.S.R., Oct. 6, 1941.
Fires and Fire Prevention: Centuries of Fire Have Changed Building Materials, Oct. 13, 1941.
"Swamp's Afire!" Is the Cry in Great Dismal, Nov. 17, 1941.
Additional ills.: Wakamba tribesman kindling fire, Kenya, Mar. 10, 1941; Oil storage tank burning, U.S.S.R., Dec. 8, 1941.
Forts and Fortresses: Ills.: Fortress of Rumeli Hissar, Turkey, Mar. 24, 1941; Old Fortifications, Belgrade, Yugoslavia, Apr. 28, 1941; Old walls of Carcassonne, France, Oct. 27, 1941; Fortifications, Malta, Feb. 2, 1942.
Gas Masks: Strategic Materials (No. 10): Coconut Waste That Saves Lives, 2 ills., Nov. 10, 1941.
Government: Fate of Mandates After 20 Years, 3 ills., Dec. 8, 1941.
France Reinstates Provinces of 150 Years Ago, Oct. 27, 1941.
Highlights of 1941 in War-Blazing World, Jan. 26, 1942.
Sarawak Sees Sunset of White Rajah Regime, Nov. 3, 1941. (Geo-Graphic Brevity)
Guns: What Is the Best Defense Against Air Raids? Feb. 2, 1942.
Additional ills.: Sailors cleaning gun, *U.S.S. Arkansas*, Oct. 20, 1941; Children with toy guns, Jan. 5, 1942; Filipino cadets holding dummy guns, Jan. 12, 1942; Old guns, Grand Harbour, Malta, Feb. 2, 1942; Australian soldier near Singapore, Feb. 16, 1942.
Handicrafts: Ills.: Baskets, Samoa, Mar. 24, 1941; Making tapa cloth, Samoa, Mar. 24, 1941; Men weaving, India, Dec. 15, 1941; Making rattan chairs, Philippine Islands, Jan. 12, 1942.
History: Alaska Celebrates 75 Years with Uncle Sam, 2 ills., Jan. 26, 1942.
Another Flag Change for Derna, Where American Flag Once Flew, Apr. 28, 1941.
Chapultepec Palace Sees Turbulent Mexican History, Oct. 27, 1941.
Highlights of 1941 in War-Blazing World, Jan. 26, 1941.
Historic Thermopylae No Longer a Narrow Pass, May 12, 1941.
Hitler in Napoleon's Footprints on the Moscow Front, Feb. 9, 1942.
Hitler's Territory Fails To Equal Napoleon's Conquests, 2 maps, Apr. 21, 1941.
Spring Brings Battles Almost Yearly, Mar. 24, 1941.
Holidays, Celebrations, and Customs: Amazon, Largest "Father of Waters," Celebrates, 2 ills., Feb. 16, 1942.
Pesky Mistletoe Makes Christmas Merry and Mischievous, Dec. 15, 1941.
Sacred Fast of Ramadan Observed by Moslem World, Oct. 27, 1941.
War Announced to Japan's Sun Goddess at Ise Shrines, Jan. 26, 1942.
Additional ills.: Perahera procession, Ceylon, Mar. 3, 1941; Homage ceremony, Baroda, India, Mar. 31, 1941.
Jade: Expedition Discovers Large Cache of Mexican Jade Objects, 3 ills., May 12, 1941.
Mausoleums: Ill.: Mausoleum of Menelik II, Addis Ababa, Apr. 21, 1941.
Medicine: Mysterious Chinese Drug Fruit Identified and Named, May 5, 1941.
Strategic Materials: No. 2, Man's Anti-Malaria Ally—Quinine, Apr. 7, 1941.
Additional ill.: Respirator made of rubber, Oct. 27, 1941.
Museums: Greece Safeguards Treasured Sculptures and Architecture, 2 ills., Feb. 24, 1941.
New National Gallery of Art Gives U. S. "Little Louvre", 2 ills., Mar. 31, 1941.
Additional ill.: Petroleum refinery model, Museum of Science and Industry, Chicago, Dec. 1, 1941.
Music and Musicians: Ills.: Native musicians, Portuguese Guinea, Mar. 3, 1941; Tatar bagpipe, Crimea, Dec. 1, 1941.
National Geographic Society: Expedition Discovers Large Cache of Mexican Jade Objects, 3 ills., May 12, 1941.
Great-Grandfather Geographies, Apr. 21, 1941.
Index Surveys 42 Years of Geographic Developments, May 12, 1941.
Mysterious Chinese Drug Fruit Identified and Named, May 5, 1941.
Pacific Theater of War Mapped by National Geographic Society, Feb. 2, 1942.
Scientific Exploration in 1941 Pushed in the Americas, 2 ills., Jan. 19, 1942.
Additional ills.: Western Hemisphere (mural by N. C. Wyeth), Mar. 17, 1941; Photographing eclipse of the sun (1936), Oct. 6, 1941.
Pagodas: Ills.: Ananda Pagoda, Burma, May 19, 1941; Sule Pagoda, Dec. 8, 1941.
Quinine: Strategic Materials: No. 2, Man's Anti-Malaria Ally—Quinine, Apr. 7, 1941.
Races and Tribes: Kurds of the Restless Bible Lands, Nov. 17, 1941.
Muftis Interpret Moslem Law, Nov. 24, 1941.
Polyglot Paramaribo in Heart of South American "Mud Puddle," 2 ills., Mar. 10, 1941.
Sacred Fast of Ramadan Observed by Moslem World, Oct. 26, 1941.
U. S. Troops in Surinam Guard Important Source of Bauxite, Dec. 8, 1941.
Additional Ills.: Samoans (2 ills.), Mar. 24, 1941; Turks, Greece, Apr. 28, 1941; Lapp school children and teacher, May 19, 1941; Negro women, Surinam, Mar. 10, 1941; East Indian woman, Surinam, Mar. 11, 1941; Wakamba tribesman, Kenya, Mar. 10, 1941; Serbian woman and children, Mar. 10, 1941; Afghanistan silk merchant, Oct. 6, 1941; New Guinea native, Oct. 13, 1941; Cambodian native

Lieut.-Col. A. W. Stevens

TRAVEL UP THE AMAZON IS A JOURNEY BACKWARD THROUGH TIME

The Amazon collects its waters from wilderness hinterlands where tribal wars rage with prehistoric fury among primitive Indians. To reach these people, the foreigner (wearing hat, almost hidden in group, center) had to travel up the Amazon's tributary Rio Negro, branching off into the Branco, into the Uraricoera, and into the Parima. This "village" consists of a single communal thatched hut, two storage sheds (right). For safety from the canoe fleets of enemies, the village has no landing on the Parima; a trail through the jungle leads to a brook, which the villagers travel to and from the river, leaving no telltale trace. The tribal custom of tightly binding the upper arm has left a marked constriction on several of the natives. Men, women, and children wear the same type of boyish-bob hair cut, with bangs. The men are bartering their blowguns and bows and arrows for items of the visitor's old clothes (Bulletin No. 2).